

WHAT IS CLAIMED IS:

1  
2. A method of producing C<sub>60</sub> and C<sub>70</sub> compounds  
which comprises evaporating graphite in an atmosphere of  
an inert quenching gas at effective pressures in an  
5 evacuated reactor, collecting the quenched carbon product  
produced therefrom and contacting the quenched carbon  
product with an extracting non-polar organic solvent  
under effective conditions to separate the C<sub>60</sub> and C<sub>70</sub>  
compounds therefrom.

10 3. The method according to Claim 1 wherein the  
quenched carbon is collected on a collecting substrate.

4. The method according to Claim 1 wherein the  
C<sub>60</sub> and C<sub>70</sub> compounds are recovered from the organic  
solvent.

15 5. The method according to Claim 3 wherein the  
separating step comprises evaporating the solvent.

6. The method according to Claim 1 wherein the  
solvent is benzene.

20 7. The method according to Claim 1 wherein the  
solvent is carbon tetrachloride.

8. The method according to Claim 1 wherein the  
evaporation of graphite is effected by passing high  
electrical current through graphite rods.

25 9. The method according to Claim 1 wherein the  
inert gas is helium or argon.

10. The method according to Claim 1 wherein the  
graphite is evaporated at pressures ranging from about 50  
torr to about 400 torr.

30 11. The method according to Claim 9 wherein the  
pressure is about 100 torr.

12. The method according to Claim 1 wherein  
the pressure ranges from about 2 to about 3 atmospheres.

12. The method according to Claim 1 further comprising separating the  $C_{60}$  compound from the  $C_{70}$  compound.

13. The method according to Claim 11 further comprising separating the  $C_{60}$  compound from the  $C_{70}$  compound.

14. Amorphous or crystalline particulate matter comprised of  $C_{60}$ .

15. Amorphous or crystalline particulate matter comprised of  $C_{60}$  produced by the process according to Claim 9.

16. A carbon product comprising a mixture of  $C_{60}$  and  $C_{70}$ .

17. A carbon product, the mass spectrum of which shows a strong peak at mass 720 amu, the infrared bonds of which have four intense lines at 1424, 1183, 577, and  $528\text{ cm}^{-1}$ , absorption peaks in the UV at 264 and 339 nm, soluble in non-polar organic solvents and sublimates at a temperature of from about  $300^{\circ}$  to  $400^{\circ}\text{C}$ .

18. The carbon product of Claim 17 produced by the process of Claim 1.

19. A carbon product produced by the process of Claim 10.

20. A carbon product produced by the process of Claim 11.

21. A carbon product produced by the process of Claim 12.

22. A carbon product produced by the process of Claim 13.

23. A formed or molded product comprising  $C_{60}$ .

24. The product according to Claim 23 which is extended in at least one direction.

25. A free flowing particulate comprised of  $C_{60}$ .

26. Substantially pure  $C_{60}$ .

27. A brownish-red carbon allotrope.

28. Amorphous or crystalline particulate matter comprised of  $C_{70}$ .

29. A carbon product, the mass spectrum of which shows a molecular ion at 840 amu, a broad peak in the ultraviolet at 216 nm, and soluble in non-polar organic solvents.

30. A formed or molded product comprising  $C_{70}$ .

31. A free-flowing particulate comprised of

32. Substantially pure  $C_{70}$ .

33.  $C_{60}$ .

34.  $C_{70}$ .

35. The vapor of  $C_{60}$ .

36. The vapor of  $C_{70}$ .

1 37. A method of extracting  $C_{60}$  and  $C_{70}$  from a carbon source containing same which comprises contacting the carbon source with a non-polar organic solvent.

5 38. A method according to Claim 37 wherein the  $C_{60}$  and  $C_{70}$  are recovered from the organic solvent.

39. A method according to Claim 37 wherein the solvent is benzene, carbon tetrachloride or carbon disulfide.

10 40. A method of extracting  $C_{60}$  and  $C_{70}$  from a carbon source containing same which comprises contacting the carbon source with benzene and recovering  $C_{60}$  and  $C_{70}$  from the benzene solution thus formed.

15 41. A method according to Claim 37 wherein the carbon source containing  $C_{60}$  and  $C_{70}$  is produced by evaporating graphite in an atmosphere of an inert quenching gas in a reactor therefor.

42. A method according to Claim 41 wherein the evaporation of graphite is effected by passing high electrical current through graphite rods.

20 43. A method according to Claim 41 wherein the inert gas is helium or argon.

25 44. A method according to Claim 41 wherein the carbon source containing  $C_{60}$  and  $C_{70}$  is obtained from collecting substrates in said reactor.

30  
all  
OK